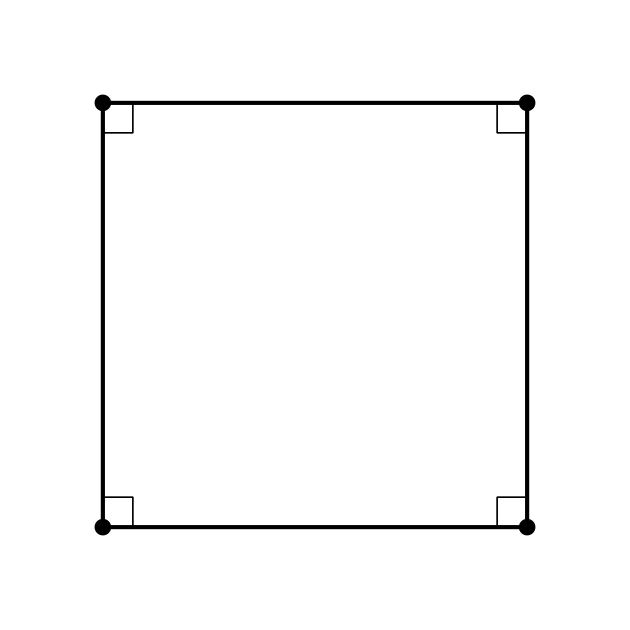
## Unit 7 Lesson 4: Quadrilaterals in Circles

### 1 Connecting the Dots (Warm up)

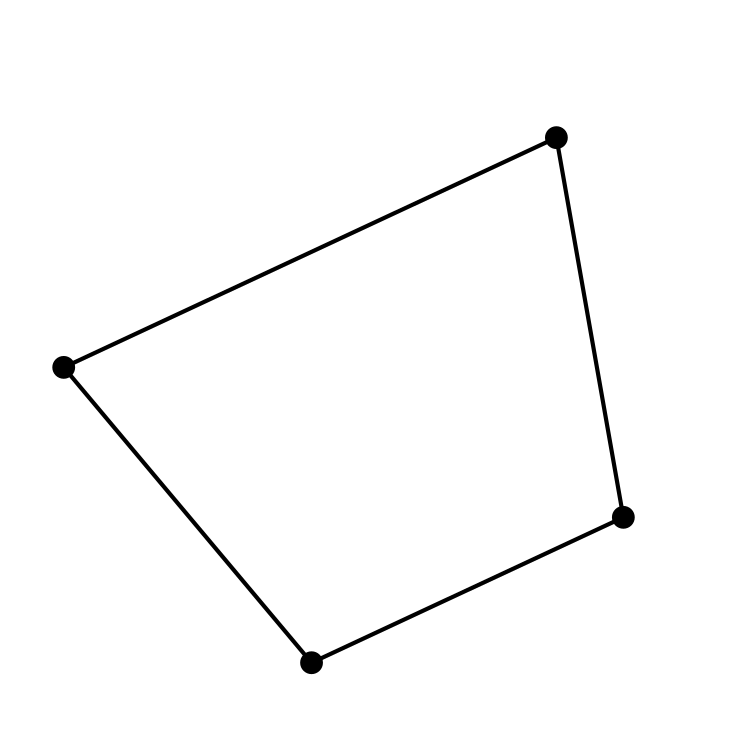
#### Student Task Statement

For each quadrilateral, use a compass to see if you can draw a circle that passes through all 4 of the quadrilateral’s vertices.

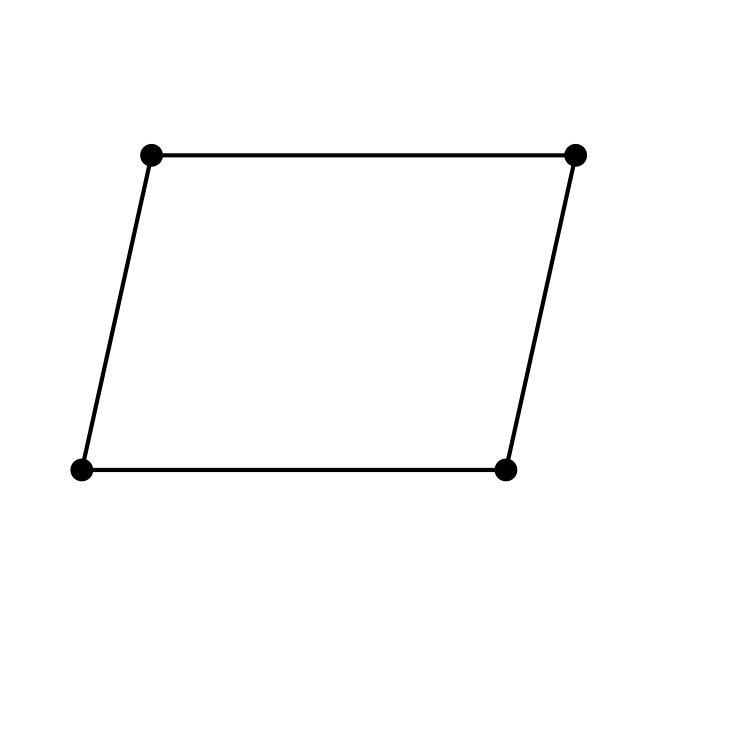
A



B



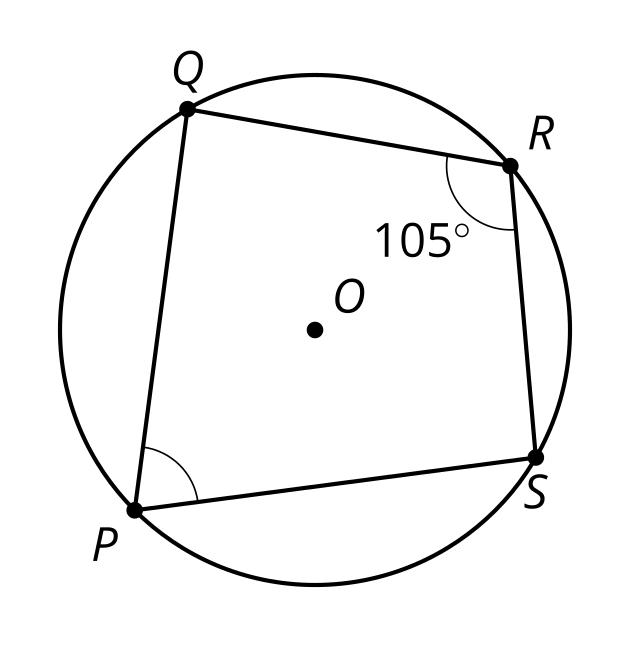
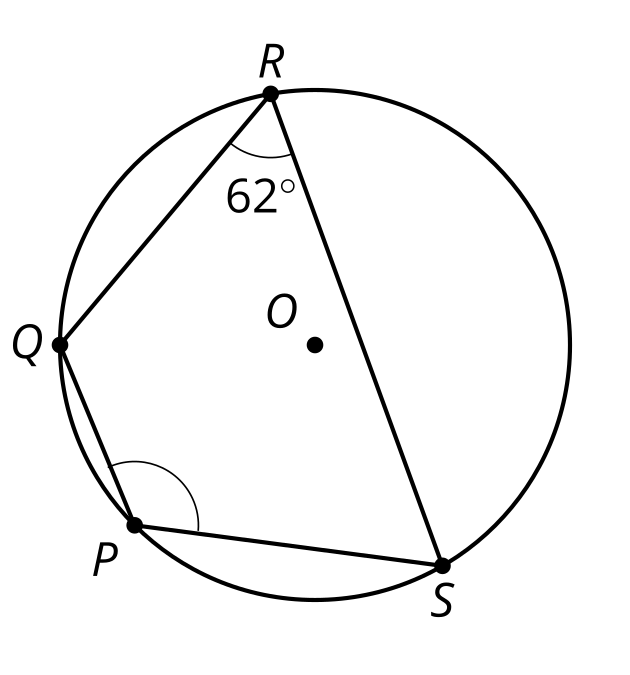
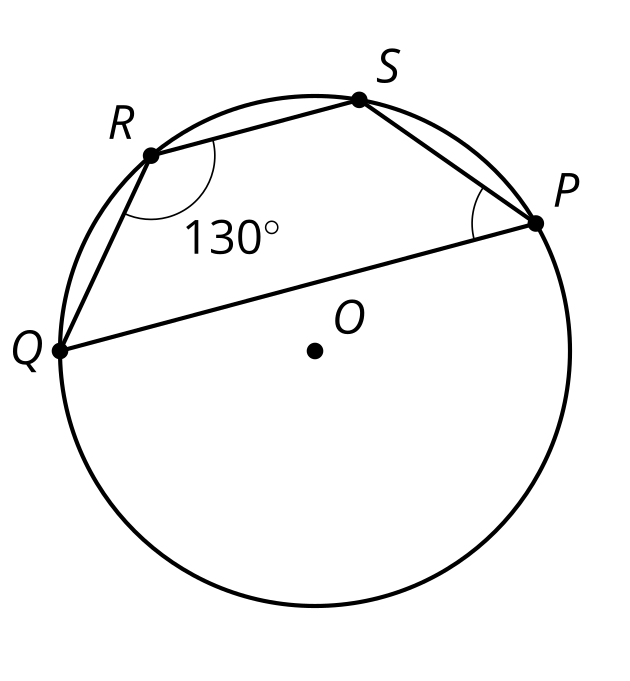
C



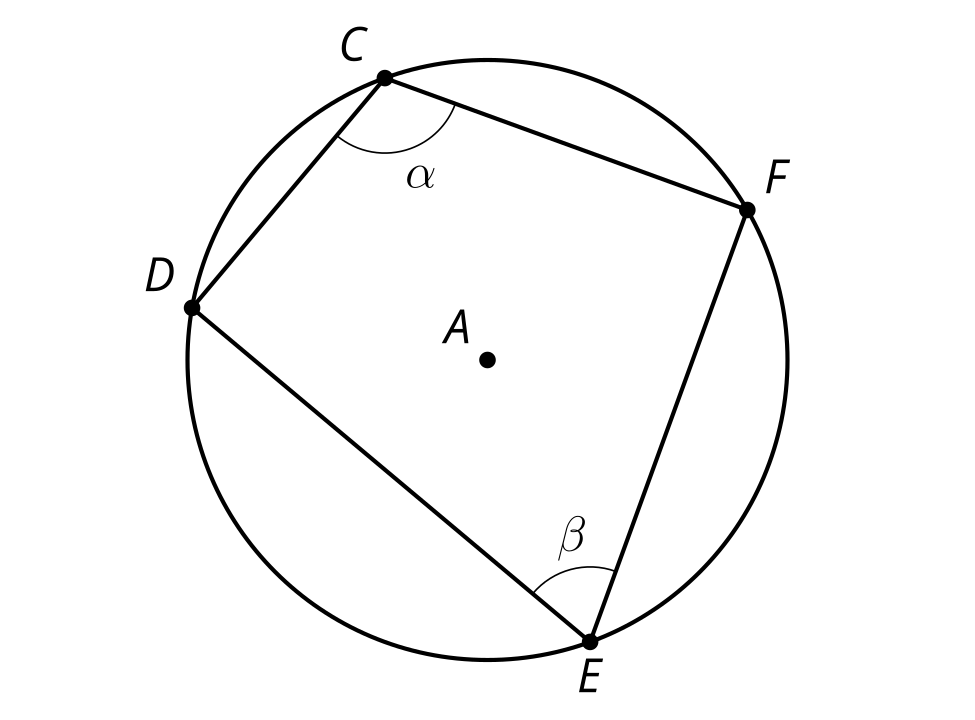
### 2 Inscribed Angles and Circumscribed Circles

#### Student Task Statement

1. The images show 3 quadrilaterals with **circumscribed** circles.

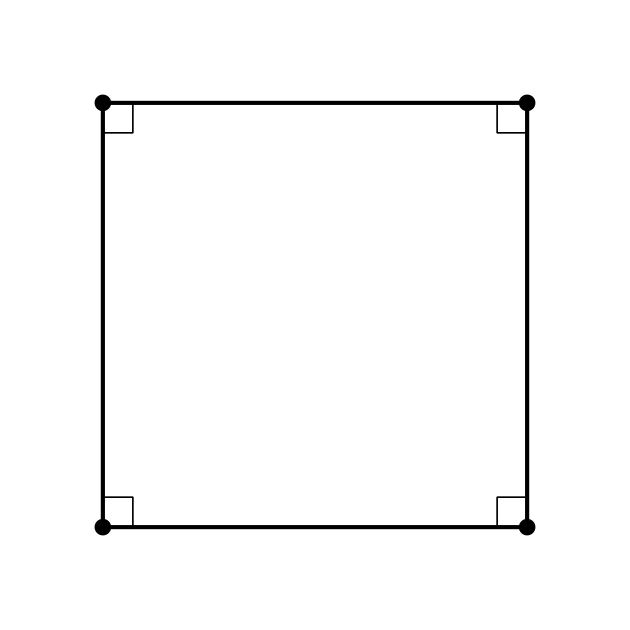
* A
* 
* B
* 
* C
* 
* For each one, highlight the arc from to passing through . Then, find the measures of:
  1. the arc you highlighted
  2. the other arc from to
  3. angle

1. Here is another quadrilateral with a circumscribed circle. What is the value of ? Explain or show your reasoning.

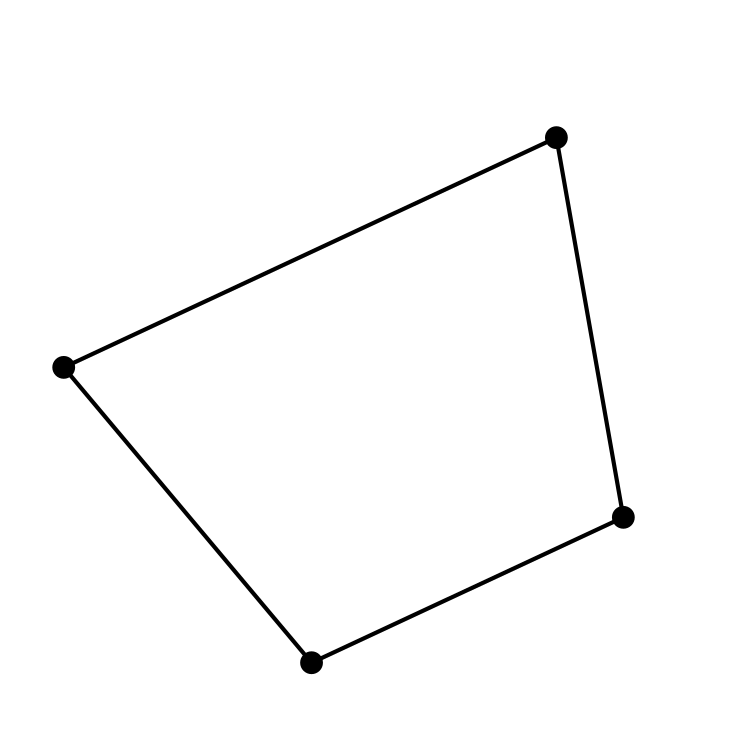
* 

#### Activity Synthesis

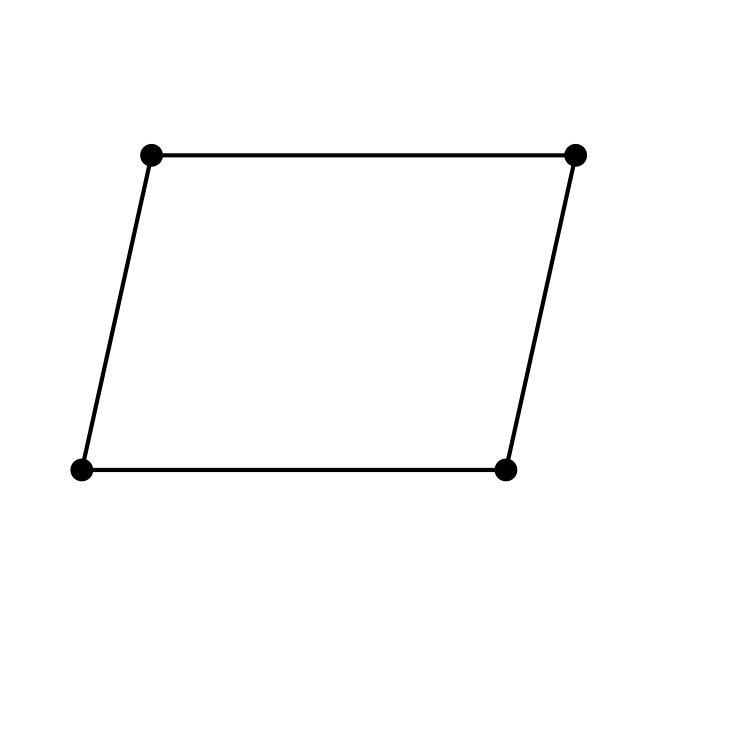
A



B



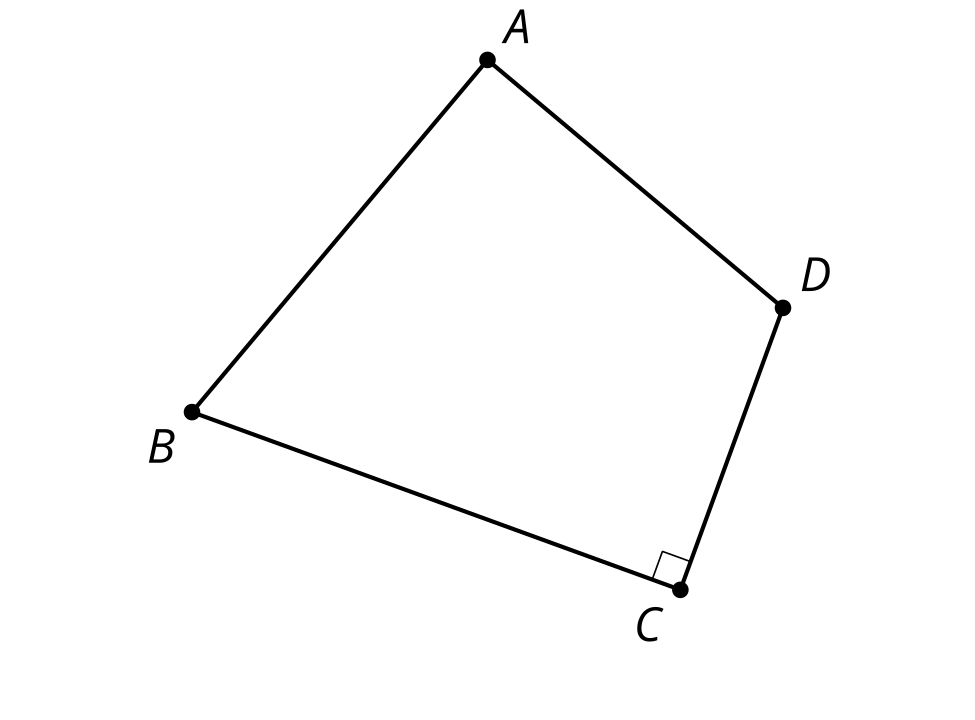
C



### 3 Construction Ahead

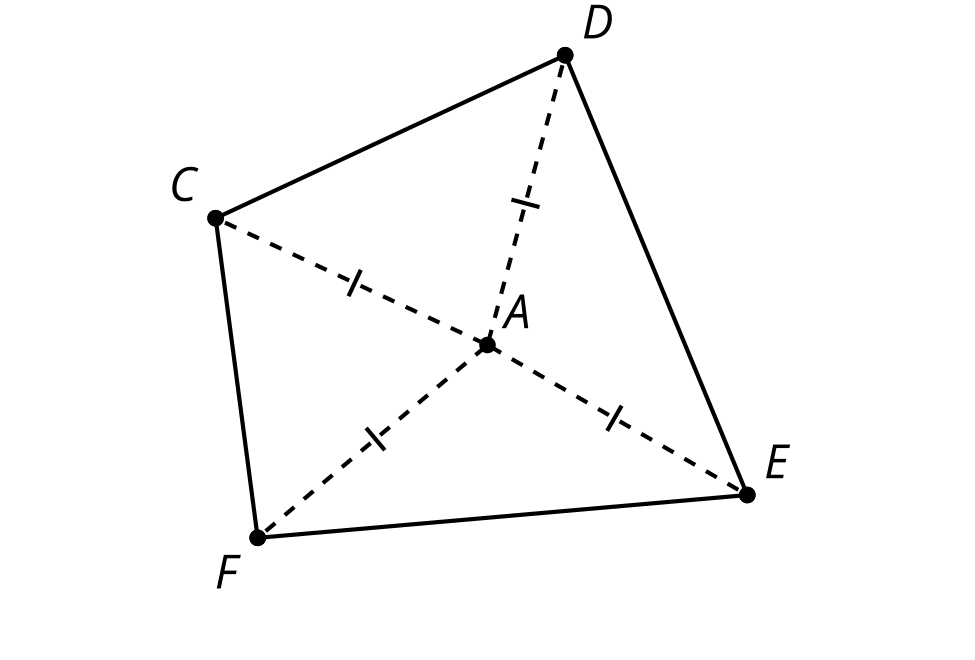
#### Student Task Statement

Quadrilateral is a **cyclic quadrilateral**.

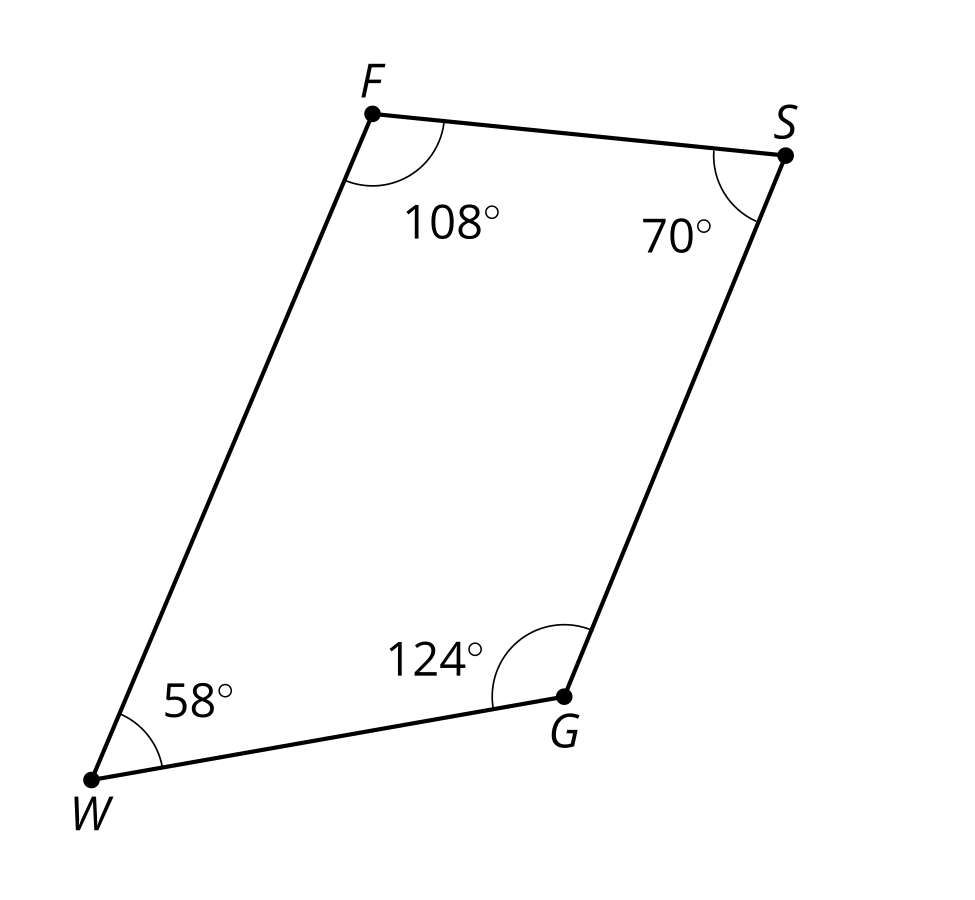


1. Draw diagonal . How will this diagonal relate to the circumscribed circle? Explain your reasoning.
2. Construct the center of the circumscribed circle for quadrilateral . Label this point . Explain why your method worked.
3. Construct the circumscribed circle for quadrilateral .
4. Could we follow this procedure to construct a circumscribed circle for *any* cyclic quadrilaterals? Explain your reasoning.

#### Activity Synthesis



#### Images for Activity Synthesis





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